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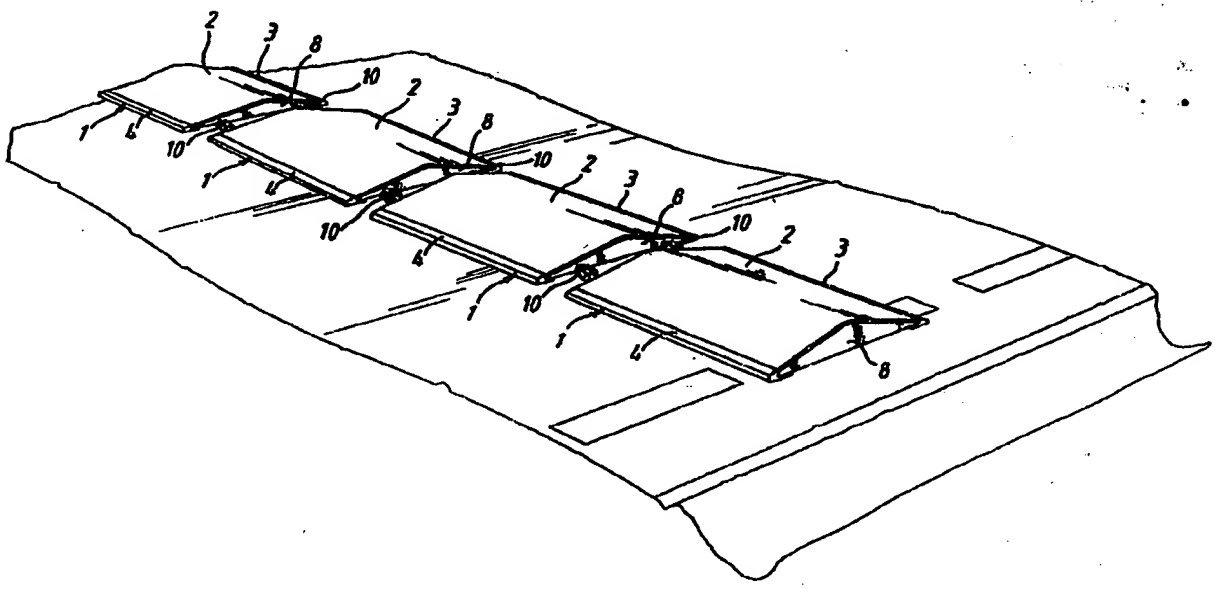
(54) Title: ROAD VEHICLE SPEED RESTRICTION DEVICE




(57) Abstract

The invention concerns a device for restriction of the speed of road vehicles. It comprises a number of interconnected profile bodies (1) arranged to be placed on a roadway (7) in the transverse direction thereof. On the roadway (7), each profile body (1) forms a hump having its maximum height at the middle portion. When a vehicle is driven over the restriction device a thump and a heavy sound bang occur in the vehicle, cautioning the driver to reduce the speed.

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# ROAD VEHICLE SPEED RESTRICTION DEVICE

The subject invention concerns a device designed to restrict the speed of road vehicles passing over the device.

In different traffic environments it is desired that the speed of vehicles driven through a particular stretch of the road, be kept very low. Examples of such environments are residential areas, road sections with restricted visibility or road-work sections where part of the roadway is occupied on account of the work in progress and where furthermore the workmen must work on the road in close proximity to the passing vehicles.

Signs indicating the maximum speed allowable has, unfortunately, proved too unefficient a method to prevent all drivers from obeying the set speed limit. The restricted resources of the police do not either allow continuous surveyance of the traffic in every road section where speed restrictions are required. In residential areas, for instance, permanent road humps are often installed in the road surface in conjunction with clear markings forewarning the driver of the position of such road barriers. These bumps force the driver to reduce the speed when passing the barrier, or else he runs the risk of damaging his vehicle.

In the case of road work in progress, where it is desired to reduce the speed of passing vehicles, permanent installations in the form of humps in the roadway are not very suitable, for obvious reasons, since the road works generally are of comparatively short duration. Still, in this case it is particularly important that the traffic advances at a very slow pace past the road work in progress in view of the fact that the activities of the workmen take place very close to the passing vehicles and that often the nature of the work prevents the workmen from paying attention to the traffic.

The subject invention provides a device which is a functional and efficient supplement to signs warning drivers of a forthcoming heavy speed restriction, as well as to cautionary information tables. The supplement in accordance with the invention consists of a road vehicle speed restriction device the characteristic features of which are defined in the appended claims. The speed restriction device is dimensionally adapted to ensure that a driver passing the device at too high speeds is made aware of this fact by impacts on the vehicle and a heavy sound bang, and that consequently he must decelerate immediately.

The invention will be described in closer detail in the following with reference to the accompanying drawings, wherein

Fig. 1 is a perspective view of a section of a roadway on which is deposited a speed restriction device in accordance with the invention,

Fig. 2 is a cross-sectional view through the profile body incorporated into the speed restriction device,

Fig. 3 is a section on a larger scale along line III-III of Fig. 2, and

Fig. 4 is a broken plan view of a part of the speed restriction device.

The road vehicle speed restriction device in accordance with the invention is constructed from a number of interconnected profile bodies 1. Each profile body 1 consists of a piece 2 of arch-shaped sheet metal which is mounted in two elongate feet 3 and 4, the latter preferably presenting ribs 5 and 6, respectively, on their upper and lower faces and consisting of a material having a high coefficient of friction against the support, such as an asphalt-covered roadway 7. At either side, the profile body 1 has an end wall 8 and in accordance with the embodiment illustrated, the profile body may have a sheet metal base 9 extending between the feet 3, 4.

The profile bodies 1 are interconnected by means of chain links 10 which are screwed into the end walls 8 with the aid of threaded bolts 11 and nuts 12.

In the manner appearing from Fig. 1, a length of profile bodies 1 thus interlinked is deposited across a roadway 7, in the transverse direction thereof, at a point immediately ahead of e.g. a section of the roadway where work is in progress. It is assumed that the direction of traffic on the roadway 7 is from the left to the right as seen in Fig. 1. When a vehicle reaches the speed restriction device, its front wheels will first roll over the rear feet 4 of a couple of profile bodies 1, some of the weight of the vehicle pressing the profile bodies 1 against the roadway 7. When the wheels pass the crest of the arched sheet metal element 2, which forms a hump, the wheels will no longer abut against the sheet metal element 2 and will thud down a bit further ahead, so as to achieve contact with the front edge of the profile body 1 or with the roadway 7, depending of the speed of the vehicle. A thump and the sound of a heavy blow on the vehicle immediately make the driver aware that he must drive his vehicle at a reduced speed over this particular section of the road. The same course of event takes place at the very next moment, when the rear wheels of the vehicle pass over the speed restriction device.

Several rows of speed restriction devices in accordance with the invention, placed in parallel at intervals across the roadway, obviously fulfil even better their intended purpose of reducing the vehicle speed on the associated section of the road.

The road vehicle speed restriction device in accordance with the invention is a comparatively light construction and when the road work is completed, it may easily be lifted by one or a couple of workers and be transported to the next road section, where new road repairs are to start. Owing to the construction, having a large surface in engagement with the roadway surface 7 and using chain

links 10 as the body interconnection means, the speed restriction device remains firmly in position in the longitudinal direction of the road while at the same time it adjusts itself to any surface unevenness in the transverse direction of the roadway.

The road speed restriction device is not, however, limited to the embodiment described and illustrated but may be varied in many ways within the scope of the appended claims. This applies to the configuration of the profile bodies 1 as well as to their feet 3, 4 and the links 10.

## CLAIMS

1. A device for restriction of the speed of road vehicles passing over the device, c h a r a c t e r i z e d in that it comprises a number of profile bodies (1) which are hingedly interconnected and which are designed to be deposited on a roadway (7) in the transverse direction thereof, in which position each profile body (1) forms a hump having its maximum height at its middle portion from which point the height gradually diminishes in the lengthwise direction of the roadway (7) forwards and rearwards.

2. A device as claimed in claim 1, c h a r a c t e r i z e d in that each profile body (1) comprises an upwardly arched sheet metal element (2) which is mounted between a front foot (3) and a rear foot (4) as seen in the lengthwise direction of the roadway (7), and an end wall (8) on either side of the arched sheet metal element (2), and in that the profile bodies (1) are hingedly interconnected by means of links (10) extending between the end walls (8) of juxtaposed profile bodies (1).

3. A device as claimed in claim 2, c h a r a c t e r i z e d in that the front and the rear feet (3, 4) of the profile bodies (1) are provided with ribs (5, 6) on the lower feet faces, and in that they consist of a material having a high coefficient of friction.

AMENDED CLAIMS

[received by the International Bureau on 4 November 1991 (04.11.91);
original claims 1 and 2 replaced by amended claim 1;
claim 3 unchanged but renumbered as claim 2 (1 page)]

1. A device for restriction of the speed of road vehicles passing over the device, comprising a number of profile bodies (1) which are designed to be deposited on a roadway (7) in the transverse direction thereof, in which position each profile body (1) forms a hump having its maximum height at its middle portion from which point the height gradually diminishes in the lengthwise direction of the roadway (7) forwards and rearwards, c h a r a c t e r i z e d in that each profile body (1) comprises an upwardly arched sheet metal element (2) which is mounted between a front foot (3) and a rear foot (4) as seen in the lengthwise direction of the roadway (7), and in that the profile bodies (1) are hingedly interconnected in the vertical direction by means of links (10) extending between juxtaposed profile bodies (1).

2. A device as claimed in claim 1, c h a r a c t e r i z e d in that the front and the rear feet (3, 4) of the profile bodies (1) are provided with ribs (5, 6) on the lower feet faces, and in that they consist of a material having a high coefficient of friction.

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Fig. 1

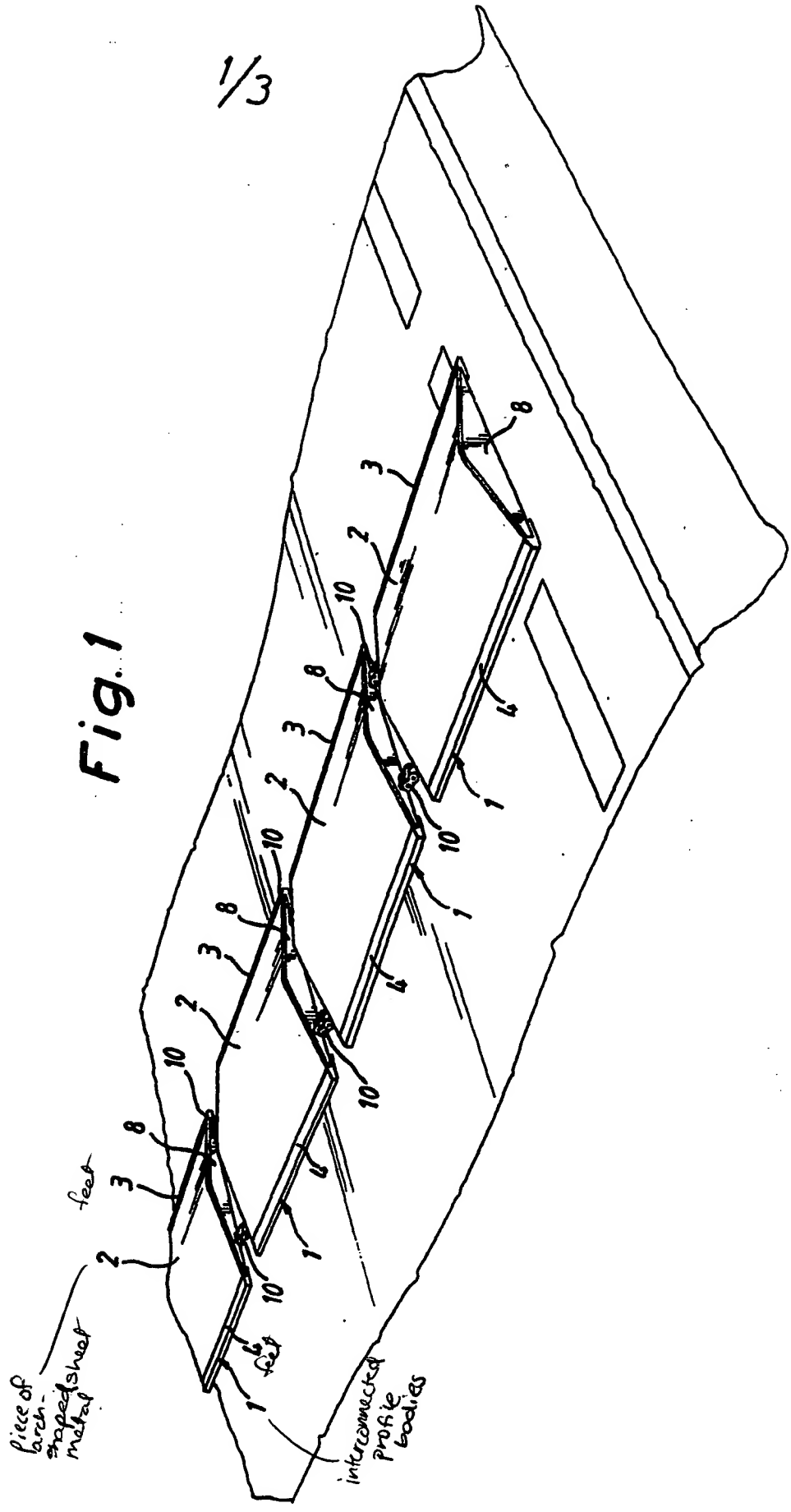

piece of arch-shaped sheet metal
feet
feet
interconnected profile bodies

Fig.2

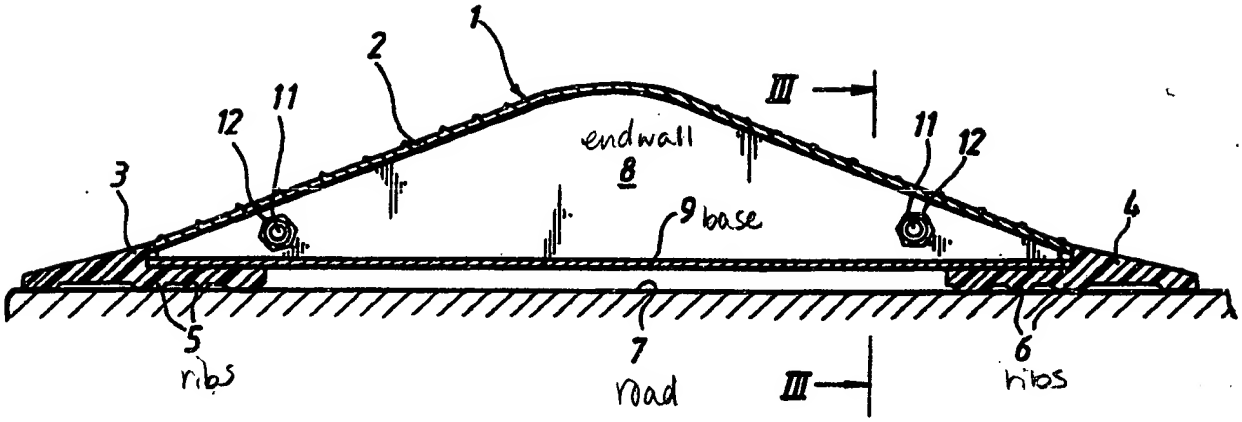

1
2
11
12
III
endwall
8
11
12
3
9 base
4
5
ribs
7
road
III
6
ribs

Fig.3

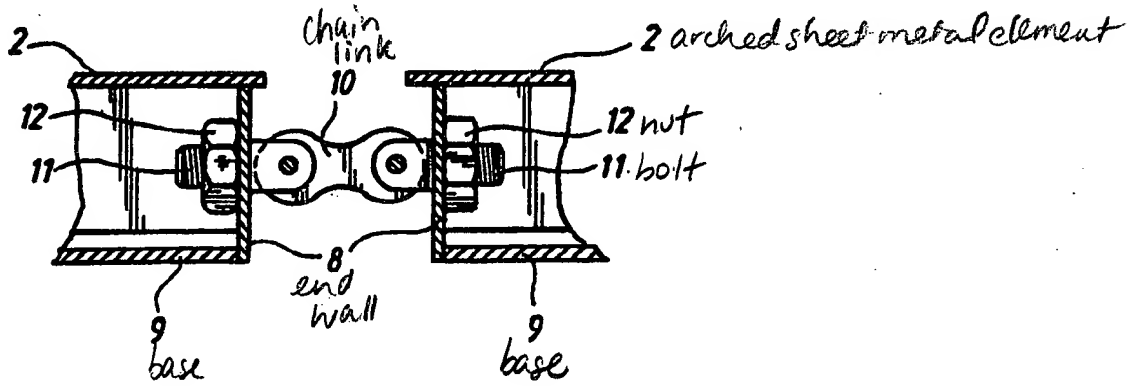
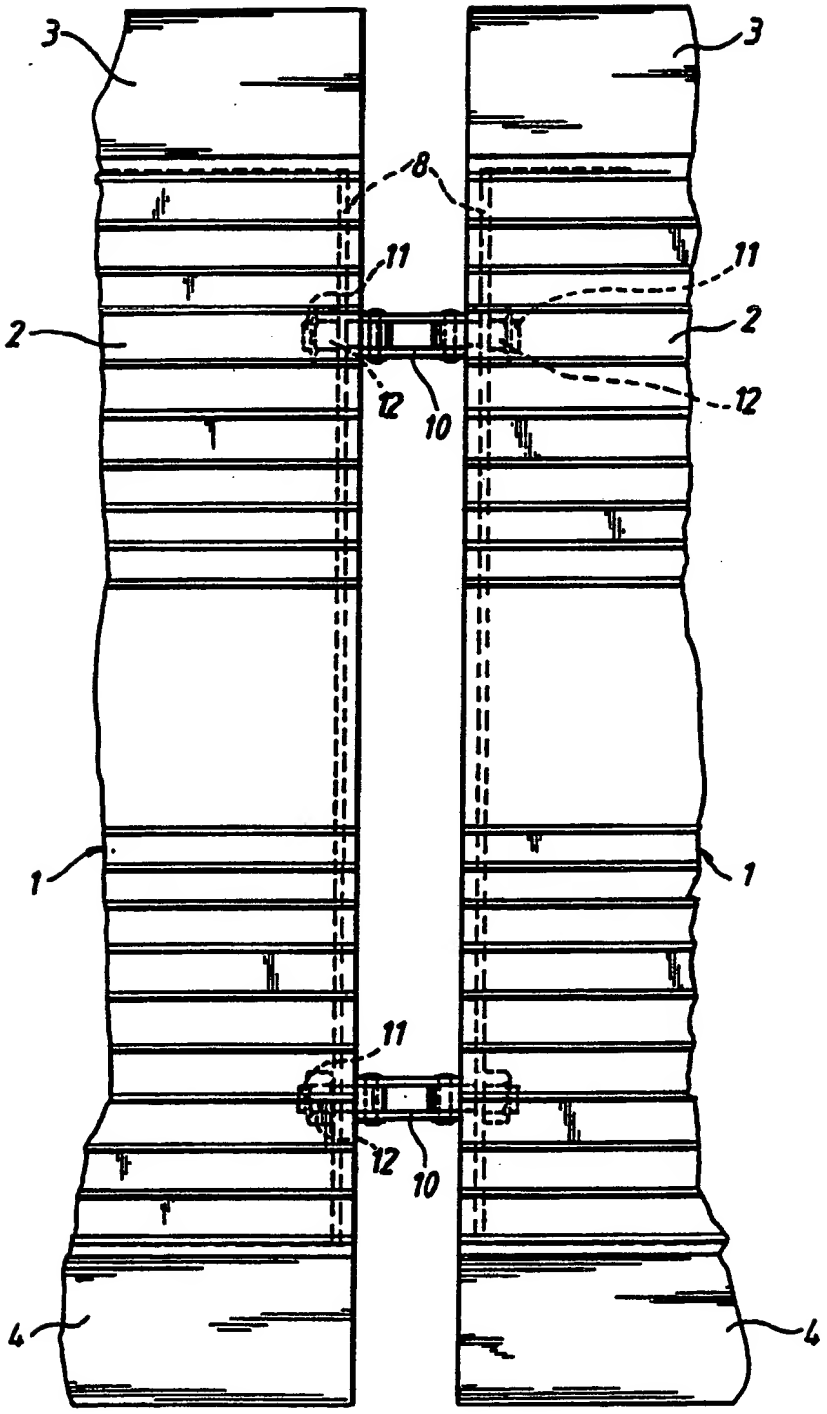

2
chain link
10
2 arched sheet metal element
12
12 nut
11
11 bolt
8
end wall
9
base
9
base

Fig. 4 PLAN VIEW



# INTERNATIONAL SEARCH REPORT

International Application No PCT/SE 91/00418

## I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)[6]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC5: E 01 F 9/04, E 01 C 9/00

## II. FIELDS SEARCHED

Minimum Documentation Searched[7]

| Classification System | Classification Symbols |
|---|---|
| IPC5 | E 01 F; E 01 C |

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in Fields Searched[8]

SE,DK,FI,NO classes as above

## III. DOCUMENTS CONSIDERED TO BE RELEVANT[9]

| Category * | Citation of Document,[11] with indication, where appropriate, of the relevant passages[12] | Relevant to Claim No.[13] |
|---|---|---|
| X | GB, A, 2030197 (ONDURA LIMITED) 2 April 1980, see the whole document -- | 1 |
| A | CA, A, 1185475 (LECOMPTE, D.) 16 April 1985, see the whole document -- | 1-3 |

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## IV. CERTIFICATION

| Date of the Actual Completion of the International Search | Date of Mailing of this International Search Report |
|---|---|
| 29th August 1991 | 1991 -09- 12 |
| **International Searching Authority** | **Signature of Authorized Officer** |
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# ANNEX TO THE INTERNATIONAL SEARCH REPORT ON INTERNATIONAL PATENT APPLICATION NO.PCT/SE 91/00418

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
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|---|---|---|---|
| GB-A- 2030197 | 80-04-02 | NONE | |
| CA-A- 1185475 | 85-04-16 | NONE | |